

OKLAHOMA WATER NEWS

Bimonthly Newsletter of the Oklahoma Water Resources Board

April Floods in Ottawa County Bring Disaster Declaration



*from
the desk
of the
Director...*

Predictably, there has been a great deal of support and a fair amount of confusion about the new animal waste rules approved in early May by the Board of Agriculture.

For the first time in Oklahoma, there are rules that require permits and provide oversight for concentrated animal feeding operations (CAFOs.) These are the big operations with over 1000 "animal units."

The new rules were drafted in response to an urgent request from the members of the Water Resources Board to Secretary Sherrer of the Department of Agriculture, asking for protection from potential pollution to waters of the state. The OWRB had hundreds of protests from citizens concerned over the unregulated and rapid growth of large animal feeding operations.

CAFOs now have to get a license and file a Pollution Prevention Plan, among other requirements.

Protests and pollution complaints must now be filed with the Department of Agriculture.

The two areas of confusion seem to be how and where citizens protest new water permits and, secondly, what kind of requirements are placed on smaller animal feeding operations.

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Eight inches of wind-driven rain lashed Ottawa County on April 10-11, inundating large areas of the city of Miami and thousands of acres of farmlands. In the City of Miami, damage was greatest along the Neosho River and Tar Creek, where floodwaters forced 100 families from their homes and damaged 20 businesses.

In Ottawa County, 275 homes and 42 businesses were damaged or evacuated; 130 miles of roads and 15 bridges were plunged into floodwaters. Damage in the county was greatest along Little Elm Creek east of Miami.

Heavy rains spiked with tornados reeled throughout the northeast region. In nearby Washington County, fast-moving floodwaters swept a rancher herding cattle on horseback to his death.

On April 21, the President declared Ottawa County a major disaster area, making residents eligible for federal disaster relief and opening opportunities for hazard mitigation assistance.

By April 25, an 11-member Inter-agency Hazard Mitigation Field Survey Team was on-site in Ottawa County. Ken Morris of the OWRB Planning Division and Gavin Brady of the Tulsa Field Office, served on the Hazard

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Approximately 47 homes were flooded in the Eastgate addition near Miami, in the unincorporated limits of Ottawa County. Most of these homes were previously flooded in September 1993. The county is eligible for a hazard mitigation project.



Director, continued from page 1

The answer to the second question is that operations smaller than those specified will not be required to obtain a license unless they are identified as a "significant" contributor of pollution by either the Director of EPA Region VI or the Board of Agriculture.

As for protests, CAFO waste lagoons or land application of liquid waste are now outside the scope of the OWRB water use hearings. These matters, covered by the CAFO license, can be commented on, in writing to the Board of Agriculture for 20 days after notification that a license is pending.

We plan to continue to work cooperatively with Secretary Sherrer and the Board of Agriculture to promote good agricultural practices and protect our water quality in Oklahoma. □

Flooding, continued from page 1

Mitigation Field Survey Team. The team inspected the damage, identified possible hazard mitigation projects and prepared recommendations to reduce future hazard losses. A report from the team established the eligibility of Ottawa County to participate in the Federal Emergency Management Agency's Hazard Mitigation Grant Program. Assistance will be provided through FEMA's Individual Assistance Loss Prevention Program.

The grant program, directed by Section 404 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, emphasizes a non-structural approach in restoring flooded areas. It encourages projects for elevation, relocation and acquisition.



This building is located on Steve Owens Boulevard in Miami, near Tar Creek.

Note flood water line midway up the windows.

ORWA Honors Secret as Man of the Year

Bill Secret, vice-chairman of the Oklahoma Water Resources Board was named Man of the Year at the Annual Oklahoma Rural Water Association meeting held April 18-20 in Oklahoma City. According to Phil Klutts, outgoing ORWA president, the award recognizes a man or woman who has made substantial contributions of his or her time, energy and expertise in the advancement of rural water in Oklahoma.

ORWA cited Secret for many years of work as a strong proponent and

effective spokesman on water issues at the local, state and national level.

Secret, a resident of Broken Arrow, is manager of RWD #4, one of the state's largest water districts. Earlier, he had a significant role in the development of RWD #5 in Wagoner County and served the City of Broken Arrow as city manager. He is a member of the ORWA Executive Board and represents Oklahoma on the National Rural Water Association Board of Directors. In May, 1993, Secret was reappointed by Governor Walters to

another seven-year term on the OWRB. Of his previous nine years on the Board, Secret has been elected vice chairman six years by his fellow Board members.

Executive Director Patty Eaton said as a Water Board member, Secret has been a tireless advocate for increased rural water funding and more reasonable regulation of water systems. □



Board Member Bill Secret accepts ORWA Man of the Year Award from Phil Klutts.

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tion of flood damaged properties; preparation of a regional master drainage plan; upgrades of certain highways, bridges and railroad trestles; debris removal and channelization of Tar Creek; channel improvements along Quail Creek; installation of flap gates at specific locations; development of small flood water detention areas; and a re-examination of Grand Lake flood control easements.

The City of Miami and Ottawa County, are among 354 communities and 42 counties in Oklahoma enrolled in the National Flood Insurance Program administered by the OWRB.

In Oklahoma, flooding accounts for 25 of the 32 disasters declared since 1955. Since 1972, flood damage claims have cost the nation over \$5 billion and have cost Oklahoma \$70.1 million. □

OCWP Meeting Considers Regional Issues

At its April 25 meeting, the Oklahoma Comprehensive Water Plan Advisory Committee identified water issues facing the state and outlined potential options in dealing with them.

The Advisory Committee separated into east, central and west regional groups to develop a list of issues deserving primary focus. The commit-

tee of Agriculture, Department of Wildlife Conservation, Department of Commerce, Conservation Commission, Corporation Commission, Department of Environmental Quality, Grand River Dam Authority, Oklahoma Climatological Survey, National Weather Service, Department of Transportation, Department of Health, U.S. Geological Survey, U.S. Army Corps of Engineers, Bureau of Reclamation, Soil Conservation Service and the U.S. Fish and Wildlife Service. The sub-committee will hold its first meeting in May. With assistance from the Corps of Engineers and Bureau of Reclamation, OWRB staff continue to refine and improve municipal, industrial

and agricultural water use projections, an important component of the Water Plan. □



Committee members Bill Miller, Hitch Enterprises, Guymon; Ed Brocksmith, Scenic Rivers Commission, Tahlequah

tee, made up of private-sector water use representatives, was formed to assist the Water Resources Board in the legislative mandate to update the OCWP. As part of this charge, the committee also reviewed recommendations from the 1980 plan.

General issues under scrutiny include water rights, water supply, groundwater protection, nonpoint source pollution, water/wastewater systems, reservoir operations, competition between water uses, water marketing, watershed planning, flood control, floodplain management, water conservation, flood planning and problem mediation/arbitration. The committee has set as goals of the OCWP to encourage economic development, to shift state/federal regulation to the local/regional level, and to find methods to deal with unfunded state and federal mandates.

Planning Division Chief Mike Mathis, said next in the update process is the formation of the Technical Advisory Sub-Committee to assist in researching preliminary water issues. Members of the sub-committee will be drawn from state and federal agencies, including Tourism & Recreation, Department



Committee members Ronn Cupp, State Chamber of Commerce, Oklahoma City; Jan Norman Grand Lake Association, Grove

Board Studies Salt Fork Alluvium, Terrace

Geologist Ed Eckenstein of the Water Management division completed the first phase of a study of the Alluvium and Terrace of the Salt Fork of the Arkansas River in March. "The study began in 1992 with the establishment of a network of water wells to measure the static water levels and other aquifer parameters each month," said Eckenstein.

The second phase will include design of a groundwater flow model for determining the maximum annual yield and the equal proportionate share of the Alluvium and Terrace of the Salt Fork of the Arkansas River. Due to the basin's length, the study considers it in two parts: Reach I in Alfalfa County; Reach II in Grant and Kay Counties. Eckenstein expects to complete the flow model for Reach I by December and the maximum annual yield on that portion of the basin by March 1995.

The aquifer -- composed of inter-fingering silt, sand, gravel and unconsolidated clay laid by the river in irregular patterns -- yields fresh water for agricultural, municipal and domestic purposes. Wells in the alluvium yield up to 500 gallons per minute; wells in the terrace, 100 to 200 gpm. The alluvium underlies the bottomlands along the Salt Fork, while

the terrace lies higher and adjacent to the alluvium.

The Water Management Division, with support from the U.S. Environmental Protection Agency, recently completed another study of the aquifer. The OWRB and EPA wanted to know if water wells located close to the Salt Fork or other saline surface water would be degraded by infiltration of salt water. The purpose of the study was to determine the effects of well pumping on the water quality of the alluvial and terrace aquifer and to gain insight into the interactions of groundwater and surface water. It studied the vulnerability of the aquifer to infiltration by chloride-laden river water and groundwater from the bedrock formations underlying the alluvium around the Great Salt Plains Reservoir.

The study concluded that chloride would impact the alluvium and terrace in an area from the Great Salt Plains dam to eight miles downstream.

Two water table maps were prepared; one a top-of-bedrock map, the other showing areas sensitive to induced infiltration caused by pumping wells.

Hydraulic gradient, transmissivity and pumping rate were used to determine the sensitivity distance.

Of the 478 square mile area ana-

lyzed, 65 percent proved to be least sensitive and only 10.5 percent most sensitive. Large areas of the aquifer are of low to moderate sensitivity and usable for municipal, industrial or irrigation use without concern for the infiltration of saline waters into wells. □

Legislature Okays Funding for SRF

On May 12, both houses of the Oklahoma Legislature voted to approve a \$3.1 million appropriation to the State Revolving Fund (SRF) from the Constitutional Reserve Fund ("Rainy Day" Fund.) The OWRB had asked for the appropriation to provide the state match for EPA's \$15.5 million capitalization grant for wastewater improvements in FY 93.

The SRF program was created by the Clean Water Act of 1987 with the purpose of replacing EPA grants with a revolving loan program. Freeman said the appropriation to the SRF program approved by the legislature on May 12 brings the total state share to \$14.2 million to match approximately \$72 million in EPA cap grants since inception of the program.

"The SRF program is structured to benefit all communities," OWRB Executive Director Patty Eaton pointed out. "EPA and state funds are usually loaned to larger communities, then, as the loans are repaid, interest proceeds are used to fund loans to smaller communities. Large and small communities benefit," she emphasized.

At its May 10 meeting, the Board approved Fagin, Bush, Brown, Tinney & Kiser as underwriter and Stifel-Nicolaus & Company, Inc. as bond counsel to assist the Financial Assistance Division with an SRF bond issue, in the event the legislature pared SRF funding from the budget.

Financial Assistance Division Chief Joe Freeman said the services of the underwriter and bond counsel will be utilized later this year in a bond issue to fund the state's \$1.9 million share to match EPA's \$9.6 million grant for the FY 1994 capitalization period.

To date, the Board has approved 142 loans totaling \$160.7 million; 19 SRF loans for \$93.8 million; 329 grants for \$18.5 million. □

Board Approves Controversial Permits

Few meetings of the Oklahoma Water Resources Board have been as colorful as the meeting held on May 10. When Board members arrived for the 9:30 a.m. meeting, they were met at the curb by two pigs and 55 citizens opposed to the issue of permits for water use in pig farming.

Requests for approval of water rights for confined animal feeding operations are making their way to the Board agenda with increasing frequency. Until 1993, the Board had received only three applications for water rights for swine operations. In 1993, the Board received 35 such requests; during the first five months of this year, 36 applications.

At the May 10 meeting, Pig Improvement Corporation had applied for three permits to use groundwater at their farm sites in Kingfisher County. The sites (Lacy #4, #5 and #6) are "finishing" (fattening) farms for an operation that breeds and sells pigs to pork producers.

In providing Board members with background, Assistant Director Duane Smith emphasized that troublesome complaints concerning odor, flies and disposal of animal wastes were not within the purview of the Water Resources Board.

"The Oklahoma Department of Agriculture (OSDA) has all jurisdiction in licensing and regulating confined animal feeding operations," Smith pointed out. "Recently, OSDA has promulgated rules which regulate such operations, and these regs have been approved and signed by Governor David Walters. Since clear jurisdictional lines are set, all siting, construction, operation and waste disposal issues should be brought before the Department of Agriculture. That is the proper forum," Smith said.

He reminded the protestants that groundwater in Oklahoma is private property. The Water Resources Board is required by law to approve a permit for water use if: the applicant owns or leases the land; the land overlies a fresh groundwater basin; the applicant plans to put the water to

beneficial use and no waste will occur by pollution or depletion. Under the Board's temporary permit, applicants are allowed two acre-feet of water per acre of land owned or leased. Water right holders are required to use licensed well drillers to construct wells that meet standards aimed at preventing pollution and to maintain the fresh water systems in a manner that prevents excessive loss or waste.

The Pig Improvement Corporation applications meet those requirements of the law, he said.

"Corporate farming is something new to us here in Oklahoma," said Charles Sturgeon, a protestant from Ames. "Most of our farms have been in the ownership of the same families for a hundred years. So many pigs in confined areas will make the same pollution problems that the oil and gas industry made several years ago," said Sturgeon in asking for more time and more study of potential problems. I want to raise my family there. I want to see my grandkids grow up there," he said.

Other protestants who stepped up to the podium echoed the same concerns for the protection of the Cimarron Terrace groundwater aquifer in Kingfisher County. They voiced apprehension about the potential for damage and leakage in waste lagoon liners and high nutrient levels in wastewaters applied to crops. Some mentioned the removal of trees and the changes to the land.

Protestant Bill Bullard's challenge that the Water Board had abrogated its responsibility brought an incisive response from Board Chairman Robert S. Kerr who observed that, "Somebody sold these properties to the corporation. Whatever my feelings are about the use of a property, I am not aware of any restrictions on the free transfer of titled properties," Kerr said. "This Board has not abrogated its responsibility," he emphasized. "The legislature has mandated the Department of Agriculture to issue these permits. They are the principal arbiters of the measures taken to prevent pollution." □



It's Time to Renew Licenses

Gary Glover, who directs the OWRB's Water Well Drillers/Pump Contractors Program, announced that staff have mailed renewal applications to the 300 firms and 600 operators currently licensed by the Board. "We got an early start in order to give the firms and operators ample time to return the renewal applications, required fees and all multi-purpose completion forms to the OWRB by the May 30 deadline," Glover explained.

Staff will process the applications and issue renewal stickers by June 30, the expiration date of current licenses. New stickers will license firms and operators for the period July 1, 1994 through June 30, 1995.

Firms and operators who let licenses lapse could be subject to fines or revocation or suspension of their licenses.

Staff also mailed violation letters to 150 drilling firms and pump contractors believed to be unlicensed, reminding them of the licensing law and urging their compliance.

Why Do Lakes "Turn Over?"

Warm temperatures, showers and the greening of plants signal spring. However, there is another phenomenon of the season that only residents of rural and lakeside areas witness -- the "turning over" of lakes and ponds, bringing to the waters a distinct murkiness, flavor and odor.

When the sun warms the surface waters to about 39.2° F, the lake takes a deep breath, mixing the waters that have been stratified by temperature all winter. The oxygen-rich top water, made heavier by warming to 39.2° F, sinks to the bottom. Winds on the surface, convection currents set up by night cooling, and evaporation also contribute some energy to circulating the entire column of water.

After this spring circulation, the waters re-stratify, the upper stratum (epilimnion) composed of warm, fairly turbulent

water; the bottommost layer of cold, undisturbed water; and the two separated by a zone of steep temperature gradient called the thermocline.

In the fall, with the onset of cooler weather, the temperature of the surface waters drops until it is the same as that of the bottommost waters (hypolimnion.) Then the water of the entire lake begins circulating and oxygen is returned to the depths.

1993 Flows 238% of Normal

The three rivers leaving Oklahoma registered a combined flow last year nearly 50 million acre-feet above the recorded average. According to U.S. Geological Survey stream gages on the Arkansas, Red and Little Rivers, 85.3 million a/f of water flowed out of the state, compared to an average combined flow of 35.8 million a/f.

The gage on the Little River near Horatio (Arkansas) recorded a discharge of 4,122,300 a/f, compared to a norm of 2,825,772 a/f.

The Arkansas River near Van Buren (Arkansas) discharged 63,471,302 a/f. The river's average discharge is 23,711,000 a/f.

The recorded total for Water Year 1993 was 85,310,779 a/f, compared to an average total discharge of 35,796,732 a/f. The total flow out of the state exceeded the average outflow by 49,514,047 a/f. Data are for the USGS Water Year 1993, October 1, 1992 through September 30, 1993.

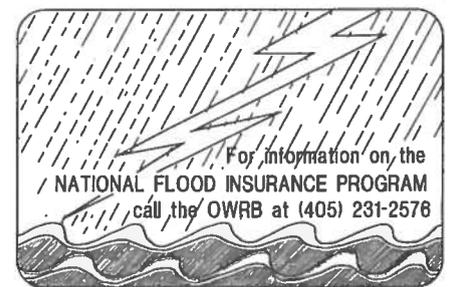
First D/PC Penalty Collected

In May, the Board collected its first administrative penalty for violations of the rules governing well drillers and pump installers. The licensed well driller used an uncertified and unsupervised operator to drill the problem well.

The Board inspector found that no surface seal was installed, leaving an annular space open 12 feet below the surface. Also the driller failed to file a multipurpose completion report in 30 days as required by Board rules. The well driller had to repair the well and the firm submitted a \$550 administrative penalty for violations that occurred.

Penalties such as this, along with the annual indemnity fees paid by all licensed drillers, are deposited into the Drillers/Pump Contractors Indemnity Fund to repair problem wells or pumps when necessary.

According to Gary Glover, who oversees the Board's D/PC program, the Indemnity Fund has reached its \$50,000 cap and the excess is used for inspections and additional enforcement and education activities.



FINANCIAL ASSISTANCE PROGRAM UPDATE			
Approved at March, April, May Board Meetings			
Loans		SRF Loans	
(3.522%; 30-year maximum term)			
Creek Co. RWD #2	\$ 830,000	Marietta PWA	\$ 712,667
Elk City PWA	\$ 2,430,000	Dewey PWA	\$ 1,555,929
Grants			
Crescent PWA	\$ 45,000	Wister PWA	\$ 75,000
Lenapah PWA	\$ 64,350	Town of Calvin	\$ 20,000
Henryetta MA	\$ 50,000	Muskogee RWD #6	\$ 25,000
Delaware RWS&SW #6	\$ 75,000	Wewoka PWA	\$ 50,000
Deer Creek MA	\$ 9,400	Skiatook PWA	\$ 25,000
Town of Canton	\$ 25,000	Blackwell MA	\$ 17,175
Totals as of 5/10/94			
FAP LOANS		FAP GRANTS	
APPROVED	142	329	19
AMOUNT	\$160,725,000.00	\$18,556,204.00	\$93,876,924.55
FUNDED	131	294	15
AMOUNT	\$146,145,000.00	\$16,682,579.34	\$81,558,329.03

Eight Students Assist at Water Board

Their educational backgrounds range from finance to wildlife ecology, from engineering to zoology, but the bond they share is working with the Water Resources Board through the agency's internship program. Five of the students are lending a helping hand this summer with stream studies and lake assessments in the Water Quality Programs Division. They are Rodney Wilson, an OSU senior in animal science; Hank Ray, an OU senior in zoology; Donald Stover, a mechani-

cal engineering graduate from OU, now pursuing a degree in environmental engineering at Rose State College; and Jeff Ridgeway, a zoology graduate of OU. Chad Shelton, recently discharged from the U.S. Navy, will enroll at OSU in the fall to study wildlife ecology;

Three students are appointed through the state's Carl Albert internship program as executive fellows: Dave Goughnour, an OSU graduate with an MS degree in geography is assigned

to the Planning Division, where he gathers data on rural water systems; two more, Michael McCowan and Brent Riley, both finance majors enrolled in the MBA program at UCO, are working in the Financial Assistance Division, readying loan and grant applications. Riley and McCowan first joined the OWRB part-time in January while they attended UCO.

Perhaps in the future, some of these seasonal employees will return to the OWRB to fill permanent positions. Approximately one-third of the Board permanent staff is comprised of former summer employees. □

Five students will assist in the Water Quality Programs Division. They are Donald Stover, Jeff Ridgeway, Chad Shelton, Rodney Wilson and Hank Ray.



Dave Goughnour, Brent Riley and Michael McCowan are executive fellows appointed through the state's Carl Albert Internship Program.



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